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	Substitut	BADEMA 1449APTO			Complete if Known			
					Application Number	10/653.824		
	INF	ORMATION (	DISCLOS	URE	Filing Date	09/03/2003		
	STA	TEMENT BY	APPLIC	ANT	First Named Inventor	W. Keats Wilkie		
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		(Use as many sheets	as necessary)		Examiner Name			
_	Sheet	1	of	2	Attorney Docket Number	LAR-15816-2		

U. S. PATENT DOCUMENTS							
Examiner Initials*	Cite No.	Document Number  Number-Kind Code <sup>2 (d known)</sup>	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear		
NC	1	<sup>US-</sup> 4,250,603	02/17/1981	Honeywell, Inc.			
	2	<sup>US-</sup> 4,479,069	10/23/1984	Hewlett-Packard Company			
	3	<sup>US-</sup> 4,613,784	09/23/1986	U.S. Navy			
	4	<sup>US-</sup> 4,747,192	05/31/1988	Kabushiki Kaisha Toshiba			
	5	<sup>US-</sup> 4,939,826	07/10/1990	Hewlett-Packard Company			
	6	<sup>US-</sup> 5,239,736	08/31/1993	Acuson Corporation			
	7	<sup>US-</sup> 5,340,510	08/23/1994	Materials Systems Inc.			
	8	US- 5,471,721	12/05/1995	Research Corporation Technologies, Inc.			
	9	<sup>US-</sup> 5,527,480	06/18/1996	Martin Marietta Corporation			
	10	<sup>US-</sup> 5,539,965	07/30/1996	Rutgers, The University of New Jersey			
	11	US- 5,645,753	07/08/1997	Kyocera Corporation			
	12	<sup>US-</sup> 5,656,882	08/12/1997	Active Control Experts, Inc.			
	13	<sup>US-</sup> 5,687,462	11/18/1997	Active Control Experts, Inc.			
	14	<sup>US-</sup> 5,692,279	12/02/1997	Motorola			
	15	<sup>US-</sup> 5,702,629	12/30/1997	AlliedSignal, Inc.			
	16	<sup>US-</sup> 5,849,125	12/15/1998	Stephen E. Clark			
	17	US- 5,860,202	01/19/1999	Brother Kogyo Kabushiki Kaisha			
V	18	<sup>US-</sup> 5,869,189	02/09/1999	Massachusetts Institute of Technology			

	FOREIGN PATENT DOCUMENTS									
Examiner Initials*	Cite No.	Foreign Patent Document  Country Code 3-Number 4-Kind Code 5(if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T⁵				
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					DOCUMENTS	
xaminer nitials*	Cite No. <sup>1</sup>	Document Numb  Number-Kind Code <sup>2 (1)</sup>		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
Da	19	<sup>US-</sup> 5,874,868		02/23/1999	Murata Manufacturing, Co., Ltd.	, , , , , , , , , , , , , , , , , , , ,
1	20	us- 5,977,691		11/02/1999	Hewlett-Packard Company	
	21	US- 6,014,898		01/18/2000	Parallell Design, Inc.	•
	22	us- 6,038,752		03/21/2000	Parallell Design, Inc.	
	23	US- 6,043,588		03/28/2000	Murata Manufacturing, Co., Ltd.	•
	24	<sup>US-</sup> 6,048,622		04/11/2000	Massachusetts Institute of Technology	
	25	us- 6,069,433		05/30/2000	Active Control Experts, Inc.	
	26	<sup>US-</sup> 6,088,894 .	[	07/18/2000	Tetrad Corporation	
	27	<sup>us.</sup> 6,255,761	<b>B</b> 1	07/03/2001	U.S. Navy	
	28	us. 6,404,107	B1	06/11/2002	Active Control Experts, Inc.	
	29	<sup>US-</sup> 6,489,706	B2	12/03/2002	Acuson Corporation	
	30	<sup>us.</sup> 6,629,341	B2	10/7/2003	NASA	
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	FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No.1	Foreign Patent Document  Country Code *Number *-Kind Code *(if knawn)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	70			
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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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of

Complete if Known						
Application Number	10/653,824					
Filing Date	09/03/2003					
First Named Inventor	W. Keats Wilkie					
Art Unit						
Examiner Name						
Altorney Dockel Number	I AR-15816-2					

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Manazina (numai canai cumacium catalas atc.) data pago(c) volumo iccua numbor(c) publichor	
DIC	1	Hagood, N.W., and Bent. A. A., "Development of piezoelectric fiber composites for structural actuation", Proceedings of the 34th AIAA Structures, Structural Dynamics, and Materials Conference, AIAA Paper No. 93-1717, LaJolla, CA, 1993, pgs. 3625-3638.	
	2	Wilkie, W. K et al., "Low-cost piezocomposite actuator for structural control applications," Smart Structures and Materials, 2000: Industrial and Commercial Applications of Smart Structures Technologies, SPIE Vol., 3991, (2000), pgs. 323-334.	
	3	Janos, B. Z. Et al., "A Magnetic particle doping for anisotropic matrix materials in active fiber composites," Smart Materials Technologyes, Newport Beach, CA, SPIE Vol 3675, (March 1999), pgs. 10-21.	
	4	MIDE Technology Corporation, Product Information Sheet, "Flexible Piezoelectric Technology," 8/99, pgs. 1-2.	
	5	A. A. Bent, "Active fiber composite material systems for structural control applications", SPIE Proceedings, Newport Beach, CA, March 2-4, 1999, pgs. 166-177.	
	6	A. A. Bent et al., "Improved performance in piezoelectric fiber composites using interdigitated electrodes," SPIE Vol. 2441, San Diego, CA, February 27-28, 1995, pgs. 196-212.	
	7	J. P. Rodgers et al., "Characterization of interdigitated electrode piezoelectric fiber composites under high electrical and mechanical loading," SPIE Vol. 2717, San Diego, CA, February 26-29, 1996, pgs. 642-659.	
	8	N. Hagood et al., "Improving transverse actuation of piezoceramics using interdigitated surface electrodes," SPIE Vol. 1917, 1993, pgs. 341-352.	
	9	A. A. Bent et al., "Anisotropic actuation with piezoelectric fiber composites," J. of Intelligent Material Systems and Structures, Vol. 6, May 1995, pgs. 338-349.	
V	· 10	A. A. Bent et al., "Active fiber composites for structural actuation," January 1997, pgs. 1-209.	

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